SCHAEFFLER

Press Release

Schaeffler at bauma 2025 (Hall 6, Booth 103)

Eco-friendly and durable: Maintenance-free plain bearings for kingpins and chassis joints in construction machinery

SCHWEINFURT, *2025-04-03*.

- New concept for replacing grease-lubricated rolling bearings with maintenance-free plain bearings with solid lubricant
- Particularly eco-friendly bearing, as it does not require re-lubrication
- Very positive test results in endurance tests

In construction machinery, rolling bearings are used, for example, as the bearing arrangement for kingpins and chassis joints. These bearing arrangements, which are subjected to high forces and strong shock loads, are characterized in particular by their swiveling movements at low speeds. Under these operating conditions, “false brinelling” – a wear phenomenon due to insufficient lubrication in the rolling contact – can occur on rolling bearings. Until now, the use of plain bearings has often foundered due to the high wear rate and excessively short re-lubrication intervals.

At bauma 2025 in Munich, Schaeffler will introduce a new concept to replace tapered rolling bearings on kingpins and chassis joints one for one with maintenance-free, dry-running plain (sleeve) bearings. These patented bearings are fitted with the high-performance Elgoglide sliding layer. Elgoglide withstands even high dynamic contact pressures of up to 300 N/mm2. Endurance tests with the new plain bearings under realistic conditions demonstrated extremely low rates of wear. The service lives required by construction machinery manufacturers are therefore readily achievable. The running-in wear that is customary with Elgoglide bearings, where solid lubricant particles are transferred from the sliding layer to the metal mating surface, is preempted by appropriate pre-loading of the bearing. Following the running-in phase, the bearings are backlash-free and run with a very low frictional torque.

Timo Linkert from Application Engineering at Schaeffler had this to say about the new plain bearings: “We see great potential for our Elgoglide bearings in kingpins and wheel suspensions because of the predominantly swiveling motions that Elgoglide bearings have proven capable of handling, even under high mechanical loads. The structure of the Elgoglide sliding layer also provides excellent shock absorption.” Moreover, these plain bearings from Schaeffler run dry, so there is

no need for regular relubrication or considerable quantities of lubricating grease, which in turn protects the environment as there is no lubricating grease getting into the ground. The outer dimensions of the bearings being presented at bauma are the same as those of tapered rolling bearings, which substantially facilitates testing with series components and retrofitting of the current series. These bearing arrangements are generally developed to series maturity in close collaboration with Schaeffler's engineers on a customer-specific basis.

***

Schaeffler Group – We pioneer motion: The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for 80 years. With innovative technologies, products, and services for electric mobility, chassis solutions, and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable – over the entire life cycle. Schaeffler describes its comprehensive range of products and services by means of eight product families: from bearing solutions and all types of linear guidance systems through to repair and monitoring services. With around 110,000 employees and more than 250 locations in 55 countries, Schaeffler is one of the world's largest family-owned companies and ranks among Germany's most innovative companies.

Maintenance-free spherical plain bearing and spherical plain bearing requiring maintenance with TS seal Image: Schaeffler

Download

CONTACT:

Johanna Katzenberger
Communications Bearings & Industrial Solutions
Tel.: +49 9721 91 5125
E-Mail: johanna.katzenberger@schaeffler.com

Marco Bosch
Communications Bearings & Industrial Solutions
Tel.: +49 9721 91-1206
E-Mail: marco.bosch@schaeffler.com